# MS-EXCEL (Vol-II)

## Unit -5

Working with V-LOOKUP and HLOOKUP

Unit -6

Printing, translation and workbook security

Unit -7

**Data Table and Pivot Table** 

Unit - 8

**Keyboard Shortcuts** 

#### Unit -5

## Working with VLOOKUP and HLOOKUP

## Learning objectives

After the Completion of this unit you should be able to know

- 1) What are VLOOKUP and the advantages of it?
- 2) What are HLOOKUP and the advantages of it?

#### Introduction

Getting values from two different sheets is a difficult task when it comes to hundreds and thousands of rows. Example of this is

## Sheet1 comprises of

Roll no	Name
1	Rahul
2	Arun
3	Arpita
4	Archana
Sheet2 comprises of	
Roll no	Favorite Game
1	Cricket
2	Hockey
3	Table tennis
4	Lawn tannic

### Sheet3 comprises of

Roll no	Name	Favorite Game
1	Rahul	Cricket
2	Arun	Hockey
3	Arpita	Table tennis
4	Archana	Lawn tennis

In this scenario VLOOKUP comes for help.

Now among many students of a question was asked how many marks a student scored in a particular course the HLOOKUP comes for help.

	А	В	С	D	E	F	G
1	Name	Shanu	Arun	Rohit	shyama	Arpita	Shyam
2	English	70	60	56	45	55	54
3	Math Marks	72	50	65	55	56	65
4	Physics	84	58	67	57	54	56
5	Chemistry	69	45	98	87	53	54
6	Maths	79	55	92	65	53	53
7							
8			SHAN	U'S MARKS	IN MATHS	6	
9					79		

### Definition

VLOOKUP also called Cross referencing is a process used in case the data is spread across multiple sheets and it has to be congregated in one sheet.

HLOOKUP is a function that looks for a value in the top row of a table or array of values and returns the value in the same column from a row you specify

## VLOOKUP

### Sheet-1

Let us enter some data in sheet1

	А	В
1	roll	name
2	1	sandy
3	2	nandy
4	3	andy
5	4	sheena
6	5	ram
7	6	arun
8	7	praveen
9	8	hari
10	9	rohit
11	10	poonam

Column A shows Roll number of the student

Column B shows name of the student

### Sheet-2

Let us enter some data in sheet2

	А	В
1	roll	Favorite Dish
2	1	Egg Curry
3	2	Veg Palau
4	3	dum Biriyani
5	4	Chicken curry
6	5	Mutton curry
7	6	curd rice
8	7	Mushroom curry
9	8	sambar
10	9	dal Makhni
11	10	mix veg

Column A shows Roll Number of the student

Column B shows the favorite dish of the student

## Step-3

Now copy the value stored in B1 cell of sheet 2 which is "Favorite Dish"

Place it in sheet1 C1 cell

Come down to C2 and run the VLOOKUP formula

C2 •				$f_{x}$	=VLC	OKUP(A2,	Sheet2!A2	:B11,2,FAL	SE)
	А	В	С		D	E	F	G	
1	roll	name	Favourite	Dish					
2	1	sandy	Egg Curry						
3	2	nandy							
4	3	andy							
5	4	sheena							
6	5	ram							
7	6	arun							
8	7	praveen							
9	8	hari							
10	9	rohit							
11	10	poonam							

## Step-4

	C2		fx (= fx	=	VLOOKUP(	A2,Sheet2	A2:B11,2,	ALSE)
	А	В	С		D	E	F	G
1	roll	name	Favourite Dish					
2	1	sandy	Egg Curry					
3	2	nandy	Veg Palau					
4	3	andy	dum Biriyani					
5	4	sheena	Chicken curry					
6	5	ram	Mutton curry					
7	6	arun	curd rice					
8	7	praveen	Mushroom cur	ry				
9	8	hari	sambar					
10	9	rohit	dal Makhni					
11	10	poonam	mix veg					

Left click on C2 and drag down till you reach roll 10

## **Explaining the VLOOKUP**

VLOOKUP(A2,Sheet2!A2:B11,2,FALSE)

- 1. A2:- the roll number common in both sheet1 and sheet2
- 2. Sheet2:- Describes the sheet from where the data is to be copied.
- 3. A2:B11:-Describes the range
- 4. 2: Stands for the column number
- 5. False:- Stands only identical values will be recognized
- 6. True :-Stands for values close to identical values will be recognized

# HLOOKUP

HLOOKUP stands for horizontal lookup

Suppose i want to know the mathematics marks of shanu I used the Horizontal

lookup

## SYNTAX

HLOOKUP("Shanu",A1:G6,6,FALSE)

	А	В	С	D	E	F	G
1	Name	Shanu	Arun	Rohit	shyama	Arpita	Shyam
2	English	70	60	56	45	55	54
3	Math Marks	72	50	65	55	56	65
4	Physics	84	58	67	57	54	56
5	Chemistry	69	45	98	87	53	54
6	Maths	79	55	92	65	53	53
7							
8	SHANU'S MARKS IN MATHS						
9					79		

Here

"Shanu" stands for the name of the student whose marks are to be found out.

A1:G6 :-Stands for the range which has to be searched.

**5** :- this stands for the 5<sup>th</sup> column which means Marks in Mathematics.

**False** :- This denotes exact match of the name shanu , the column number and the range defined.

If incorrect values are entered #REF is returned.

#### Unit -6

### Printing, translating and Workbook security

#### Learning objectives

After the Completion of this unit you should be able to know

- 1) How to take a printout, types of printing,
- 2) What is translation and how translation is done from one language to other.
- 3) How to protect your data from a stranger by giving a password to the worksheet, workbook

#### Structure

Introduction

Definition

Printing Worksheets

Translate Worksheet

Email Workbooks

Workbook security

Let us sum up

References

6.9. Check your progress -possible answer

## Introduction

Printing in a desired order, quick translation and tight security are the need of the hour. Improper printing leads to poor output which is not liked the individual or the company. Quick translation which converts one language to another is a component which converts from one language to the other is required when someone wants to incorporate another language in the worksheet. Important data is viewed by strangers when they open the file. This protection is given by MS Excel which helps in locking the worksheet and workbook thus protecting it. Feature of this kind of locking are lock a worksheet so that it can be opened but cannot be modified. Work book which can be opened but cannot be modified, complete lock to a workbook and worksheet so that it cannot be opened by anyone except the concern person, complete lock to a workbook and worksheet with read only option for outside users.

#### Definition

Printing :- Printing is a process for reproducing text and images using current software.

Translation:- Translation is a process of changing the words from one language into a different language

Security :- The process of securing files so that they are inaccessible by other person

## **Printing Worksheets**

- @ X 🗶 | 🚽 + (\* + 🕞 🎒 | = 🕜 🗆 🗗 🖾 File Home Insert Page Layout Formulas Data Review View Team Save Print 🔜 Save As Copies: 1 \* 💕 Open 5henu 70 72 84 69 79 Name English Math Marks Physics Chemistry 400 50 58 45 55 Rohit 56 63 67 98 92 Arpita 35 36 34 33 33 Print 45 55 57 87 65 34 55 55 54 53 首 Close Printer Info Verzenden naar OneNote 2010 -Ready Recent Printer Properties New Settings Print Active Sheets ly print the active sheet Save & Send Print Active Sheets Only print the active sheets Help Print Entire Workbook Print the entire workbook Options 🔀 Exit Print Selection
Only print the current selection Ignore Print Area Normal Margins Left: 1.78 cm Right: 1.78 cm No Scaling + Page Setup 4 1 of 1 ▶ 👩 🙆 0 9 S W X 0 P 🖗 🔁 🕪

To print a worksheet follow the following steps as shown below

Click on file and then print option

The print option in the above screen shows

- 1. Print button :- To start printing
- 2. Copies :- Number of copies to be printed
- 3. Printer :- which printer one uses to print.
- 4. Settings :
  - a. Print active sheet

- b. Print active sheet from which sheet to which sheet.
- c. Print Workbook :- Print the entire workbook
- d. Print Selection :- Print the selection.
- 5. Collated :- How to print the existing sheet when more than 1 copy is given to print in the fashion
- 6. 1,1,1;1,2,3
- 7. Portrait Orientation :- This option is used to print in either portrait /landscape fashion.
- 8. A4 :- select the sheet type (A4,A3,B4,B5, Envelope)
- 9. Normal Margin:- Used to set the margins of the page
- 10. No Scaling :- Printing sheets in their actual size

## **Translate Worksheet**

Used to translate the entire worksheet into another language.

Step-1 :- select the cell A1 as shown below



**Step-2** :- Go to the review tab and click translate as shown below.



Step-3	3
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#### **Email Workbooks**



Workbook security

Workbook security is used to protect a workbook or the worksheets in the workbook. This involves 4 ways of locking the worksheets of the workbook.

- 1. Protect Sheet
- 2. Protect Workbook
- 3. Lock the workbook with a password
- 4. Lock the workbook with a password and read only

## **Protect Sheet**

This option is used to lock a particular worksheet.

#### <u>Steps</u>

- 1. Create a new excel workbook
- 2. Click on sheet1 and start typing your data as shown below

	А	В	С
1	Name	Age	Gender
2	Shanu	25	М
3	Rohit	26	М
4	Asha	16	F

3. Click on Review Tab and click Protect Sheet as shown below

Review	View	Team				
Sho	w/Hide Co	omment				Protect and Share Workbook
Shows the second sec	w All Com	ments	Protect	Protect	Share	🚰 Allow Users to Edit Ranges
🗂 🗇 Sho	ow Ink		Sheet	Vorkbook	Workbook	🕎 Track Changes 🔻
ents			$\smile$		Chi	anges



- 6. Click on sheet2 and click on sheet1.Now the sheet1 is locked from entering values, editing values ,deleting values.
- 7. If someone tries to enter data the result comes on the screen as below

	Microsoft Excel       S3         The cell or chart that you are trying to change is protected and therefore read-only.       To modify a protected cell or chart, first remove protection using the Unprotect Sheet command (Review tab, Changes group). You may be prompted for a password.         OK
8.	Now to unprotect sheet click on
	Review View Team
	Show/Hide Comments ext Show All Comments ext Show Ink Vorkbook Workbook
	iens changes
	Unprotect Sheet ? 🔀
	Password:
9.	OK Cancel

10. Enter valid password. If password is lost nobody can help you. So be

careful	eet oncet	~	
Passwo	rd: 🐽	••	
		ОК	Cancel
1.			

12. Now I enter a row in excel in row 5 as shown below.

1	Name	Age	Gender
2	Shanu	25	М
3	Rohit	26	М
4	Asha	16	F
5	rahul	18	М

13.

14. Now the sheet is unlocked and like a general worksheet till you protect the sheet.

## **Protect workbook**

This option prevents the workbook from

- 1. Adding new worksheets
- 2. Deleting The existing Sheet
- 3. Moving the existing sheet

## <u>Steps</u>

- 1. Create a workbook named protect
- 2. Below I have created 3 sheets as shown below

## SHEET1

## SHEET2

#### SHEET3

	А	В	С
1	Name	Age	Gender
2	Shanu	25	М
3	Rohit	26	М
4	Asha	16	F
5	rahul	18	М
-			

	А
1	Company
2	Microsoft
3	Accenture
4	Infosys
5	Satyam
6	Juniper Networks
_	

1	Α
1	<b>Elements in Chemistry</b>
2	Carbon
3	Magnesium
4	Barium
5	sodium

3. To protect a workbook click as shown below

Review	View	Team		$\sim$	
Show Show ext Show eents	v/Hide Co v All Com <mark>v Ink</mark>	omment ments	Protect Sheet	Protect Workboo	k
Protect Stru Protect work	icture and	d Windo	ws 💡	8	
Structu	ure WS			-	
Password (o	ptional):				
	0	К	Cance	el 📄	
Confirm Pa	ssword			8	Σ.
Reenter pas	sword to p	proceed.			

Caution: If you lose or for	orget the passw	ord, it cannot be
recovered. It is advisable	e to keep a list o	of passwords and
their corresponding work	book and sheet	t names in a safe
place. (Remember that p	basswords are o	case-sensitive.)
	ОК	Cancel

### 4. Close the workbook and while closing click the save button



5. Try to open the workbook and you find you are neither able to add new sheets or delete created sheet or move sheet. See below



- 5. To unprotect a workbook that is protected with a password follow the following steps
  - a. Open the workbook
  - b. Go to review and go to protect workbook as shown below.



c. Enter the valid password and click ok button as shown below

Unprotect \	Workbook	8 23
Password:	••••	
-	ОК	Cancel

d. The workbook is unlocked and you can add sheets, move sheets and delete sheets

### Protect workbook with password and read only

This option is used lock the entire workbook with a password with read only option

#### Where this kind of scenario is used

- 1. Protect vital statistical data by protecting it with password and read only so that the user can see only but cannot modify
- 2. Protect any sensitive data relating to finance relating to one company being changed by a stranger

#### <u>Steps</u>

- 1. Open the workbook named protect that we had prepared earlier. We are going to lock this workbook so that except you nobody can open except you
- 2. Go to File and then click Save as option



3. Click on Tools down arrow option as below and select General options



- 4. Once save option is clicked you get 2 options
  - a. Password to open :- This password is to open the workbook
  - b. Password to modify :- This password is to modify the workbook.
- 5. The screen shown below is to confirm the password to open. Type the password to open and click OK button

Librari	les ► Documents ► 🚽 🕈	Search Docui	ments	2
Organize 🔻 New fo	older		• ==	0
Microsoft Excel	Documents library	Arran	ge by: Folder	
×-11	Confirm Password			
Favorites	Reenter password to proceed.	te modified	Туре	
Desktop	••••	04-2015 21:38	File folder	
UOWNIOAds	Caution: If you lose or forget the password, it cannot be	04-2015 20:49	File folder	
Recent Places	recovered. It is advisable to keep a list of passwords and	04-2015 20:01	File folder	
🖰 Libraries	place. (Remember that passwords are case-sensitive.)	08-2015 15:26	File folder	
Documents	OK Cancel	08-2015 11:30	File folder	
Music		11-2015 11:37	File folder	
	• •			,
File name: pr	otect			į,
Save as type: Exc	cel Workbook			
Authors: SH	ANU Taos: Add a tao			
	Save Thumbnail			
				_

6. Upon clicking the OK button you get an option to confirm the modification password as shown below. Type it and press OK

			r    ocuren bocu	nems	
Organize 🔻 New f	older			855 -	?
K Microsoft Excel	Documents library		Arran	ge by: Folder	
	Confirm Password	8 83			
Favorites	<u>R</u> eenter password to modify.		e modified	Туре	
Desktop	••••		4-2015 21:38	File folder	
Becent Discer	Caution: Password to modify is not a security feature. This	4-2015 20:49	File folder		
Mecent Places	document is protected from unintentional the document is not encrypted. Malicious	editing. However, users can edit the	4-2015 20:01	File folder	
🧮 Libraries	file and remove the password.		08-2015 15:26	File folder	
Documents	ОК	Cancel	08-2015 11:30	File folder	
J Music			1-2015 11:37	File folder	
	· · ·	2			
File name: p	otect				
Save as type: Ex	cel Workbook				
Authors: SH	ANU Tag	s: Add a tag			
	Save Thumbnail				

7. Now press the save button as shown below



**9.**If the document already exists press the yes button as shown below.

X Save As	Desuments	<b>3</b>
Cool Libraries		cuments p
Organize 🔻 New folde	r	•
Microsoft Excel	Confirm Save As	e by: Folder 🔻
<ul> <li>☆ Favorites</li> <li>■ Desktop</li> <li>● Downloads</li> <li>● Recent Places</li> </ul>	protect.xlsx already exists. Do you want to replace it?	Type File folder File folder
Libraries Documents Music	Image: book of the second se	i File folder File folder File folder
File name: protect	t Vorkbook	-
Authors: SHANU	Tags: Add a tag	
	Save Thumbnail	
Hide Folders	Tools 🔻 Save	Cancel

## 11. Now close the document as shown below

File Home	insert Page Layout Formulas Data Review View Team		a 🕜 🕁 🗐
🛃 Save 🐼 Save As 📸 Open	Information about protect C\User\SHAND\Document\protectalsx		
Close Info Recent	Product Activation Required Microsoft Office Professional Plus 2010 requires a valid product license. Activate your product key now to obtain a valid product license.	Properties * Size 16.5KB Title Add a title	
New Print Save & Send	Permissions Protect Workbook	Tags Add a tag Categories Add a category Related Dates Last Modified Today, 15:14 Created Today, 11:09	
Deptions	Prepare for Sharing           Before sharing this file, be aware that it contains:           Check for Issues *           © Content that people with disabilities find difficult to read	Last Printed Never Related People Author SHANU Add an author Last Modified By SHANU	
	Versions Manage Versions * Versions *	Related Documents  Popen File Location  Show All Properties	

12 You come across this message click save



13 and then this click ok

	ei										8
🔔 'pro	otect((Autosaved-3048	576434264785	511)).xlsb' is	read-only. To	save a copy,	, click OK, the	n give the wo	orkbook a nev	v name in the	Save As dialo	g box.
					ОК						

14 Close all documents and now again open Protect.xlsx file as shown below



15. The locked workbook is as shown below.

F	ile Ho	me I	nsert	Pa	ge Layou	t Forr
	🗎 🔏 Cut		Cal	ibri		* 11
-	💷 📑 Cop	у т				
Pas	ste 🛷 Forn	nat Paint	er B	I	<u>u</u> -	
	Clipboard		Fa		Fo	nt
	A1				$f_x$	
	A	В		С		D
1	Password				?	
2	'protect.xls	x' is prote	cted.			
3	Deserved					
4	Password:					
5		ſ	ОК		Car	ncel
6						

16. Enter the password to open and click OK button

	A	В	С	D
1	Password			? <b>×</b>
2	'protect.xls:	x' is protected	ł.	
3	· .			
4	Password:	•••••		
5			ОК	Cancel
6				

17. Enter the password to modify and click Ok button



18. The File got opened

1.0

	А	B	С
1	Name	Age	Gender
2	Shanu	25	M
3	Rohit	26	Z
4	Asha	16	F
5	rahul	18	Μ

If you are beginner and have already saved your document you can also use save as and choose a different file name to save the document and proceed with the steps we had discussed now. After the file is secure you can erase the unprotected file.

General Options	82
Always create <u>b</u> acku	p
Password to open:	••••
Password to <u>m</u> odify:	••••
	OK Cancel

# Change the property in the procedure

### Save the file.

The file thus save is protected read only file.

## Unit -7

### **Data Table and Pivot Table**

#### Learning objectives

After the Completion of this unit you should be able to know

- 1) What is a Data Table.
- 2) How to create a Data Table.
- 3) Data Table and its uses.
- 4) What is a Pivot Table
- 5) How to create a Pivot Table.
- 6) Pivot Table and its uses.

#### Structure

Introduction Definition Data Table Pivot Table Let us sum up References Check your progress –possible answers

#### Introduction

Data table is used in small to very large firms where time and money are the important criteria of development of company. Used in high scientific calculations, mathematical calculations, financial operations.

### Definition

**Data table:-** Data Table a range of cells that are used for testing and analyzing outcomes on a large scale. It is a way to see how altering the values in a formula affect the results. Data tables can store the results of multiple scenarios in your spreadsheet, and saves you time in calculating multiple formulas.

**Pivot Table:-** A pivot table is a program tool that allows you to reorganize and summarize selected columns and rows of data in a spread sheet or database table to obtain a desired report.

Data Table

	А	В	С	D	E	F	G	Н		J	K	L
1	ITEM NAME	PEN DRIVE										
2	QTY	100										
3	PRICE	200										
4	DISCOUNT	10%										
5	PRICE											
6	Total Price	18000	10	20	30	40	50	60	70	80	90	100
7	QTY	10	90	180	270	360	450	540	630	720	810	900
8		20	180	360	540	720	900	1080	1260	1440	1620	1800
9		30	270	540	810	1080	1350	1620	1890	2160	2430	2700
10		40	360	720	1080	1440	1800	2160	2520	2880	3240	3600
11		50	450	900	1350	1800	2250	2700	3150	3600	4050	4500
12		<mark>6</mark> 0	540	1080	1620	2160	2700	3240	3780	4320	4860	5400
13		70	630	1260	1890	2520	3150	3780	4410	5040	5670	6300
14		80	720	1440	2160	2880	3600	4320	5040	5760	6480	7200
15		90	810	1620	2430	3240	4050	4860	5670	6480	7290	8100
16		100	900	1800	2700	3600	4500	5400	6300	7200	8100	9000

**Data Table :-** Data Table is the process to see different results by altering input cell values in your formula.

## Why do we need a Data Table

Data tables have a very wide scope but for now we focus on how to create a Data table.

## How to create a Data Table

## Step-1

## Prepare the Excel Sheet as below

	А	В	С	D	E	F	G	Н		J	K	L
1	ITEM NAME	PEN DRIVE										
2	QTY	100										
3	PRICE	200										
4	DISCOUNT	10%										
5	PRICE											
6	Total Price	18000	10	20	30	40	50	60	70	80	90	100
7	QTY	10										
8		20										
9		30										
10		40										
11		50										
12		60										
13		70										
14		80										
15		90										
16		100										

Let us consider the above example.

B1 CELL comprises of the name of the item which is pen drive.

B2 CELL comprises of the quantity of the item which is 100.

B3 CELL comprises of the price of the item which is 200

B4 CELL comprises of the discount for the item which is 10%

B6 CELL comprises of the net price =(200\*100)\*(1-10/100)

=20000\*(90/100)=18000(By formula) ==(B2\*B3)\*(1-B4)

# As shown below in yellow

_	D6	- (a £	-(00*00)*/	(1 D/)				i.				
	DU	* ( Jx	-(62 65)	(1-04)								
	А	В	С	D	E	F	G	Н	- I	J	K	L
1	ITEM NAME	PEN DRIVE										
2	QTY	100										
3	PRICE	200										
4	DISCOUNT	10%										
5	PRICE											
6	Total Price	18000	10	20	30	40	50	60	70	80	90	100
7	QTY	10										
8		20										
9		30										
10		40										
11		50										
12		60										
13		70										
14		80										
15		90										
16		100										

# Step-2

To prepare the Data Table

	ile	Hom	ne	Insert	Page Layout	Formula	as Data	Review	View	Team								
叢	A		*			C	Di Conne Prope	ections A	A Z A	T Ko	lear eapply	****** *	+		<b>)</b>	12	*	*
Fr	om F	rom Veb	From Text	From Othe	er Existing	Refres	h © Edit Li	nks Z	Sort	Filter VA	dvanced	Text to Re Columns Dur	move D	ata Cons	olidate	What-If Analysis *	Group	Ungroup S
			Get Ext	ternal Data			Connection	5	So	rt & Filter			Dat	ta Tools		Scer	nario Mana	aer
		A6		<b>•</b> (0	$f_x$	Total Price	2									Goa	I Seek	-
		А			В	С	D	E	F	G	Н	1	J	К	L	Data	<u>T</u> able	
1	ITEM	NAM	E		PEN DRIVE													
2	QTY				100				SELE	CT RANG	E{step	-1}						
3	PRIC	E			200													
4	DISC	OUNT			10%											c	<b>LICK Н</b>	RE
5	PRIC	E															Sten-2	
6	Total	Price			18000	10	20	30	40	50		50 70	80	90		100		
7	QTY			L	10													
8				<u> </u>	20											_		
9				L	30													
10				L	40													
11				L	50													
12				-	60													
13				-	/0													
14					80													
15					90													
10															_			

Here 10.20. 30 are price and the qty that we set

## <u>Step-3</u>

	B6	▼ (* f <sub>x</sub>	Data Table	8 23
	Α	В		
1	ITEM NAME	PEN DRIVE	Row input cell:	\$8\$2
2	QTY	100	Column input cell:	\$8\$3 💽
3	PRICE	200	ОК	Cancel
4	DISCOUNT	10%		

- 1. Click on the text box in row input cell
- 2. Select B2 cell
- 3. Click on the text box in column input cell
- 4. Select B3 cell
- 5. Click the ok button

## **<u>Step-4 :-</u>** The result is as shown

	B6	▼ (	=(B2*B3)*	(1-B4)								
	А	В	С	D	E	F	G	Н	I	J	K	L
1	ITEM NAME	PEN DRIVE										
2	QTY	100										
3	PRICE	200										
4	DISCOUNT	10%										
5	PRICE								-			
6	Total Price	18000	10	20	30	40	50	60	70	80	90	100
7	QTY	10	90	180	270	360	450	540	630	720	810	900
8		20	180	360	540	720	900	1080	1260	1440	1620	1800
9		30	270	540	810	1080	1350	1620	1890	2160	2430	2700
10		40	360	720	1080	1440	1800	2160	2520	2880	3240	3600
11		50	450	900	1350	1800	2250	2700	3150	3600	4050	4500
12		60	540	1080	1620	2160	2700	3240	3780	4320	4860	5400
13		70	630	1260	1890	2520	3150	3780	4410	5040	5670	6300
14		80	720	1440	2160	2880	3600	4320	5040	5760	6480	7200
15		90	810	1620	2430	3240	4050	4860	5670	6480	7290	8100
16		100	900	1800	2700	3600	4500	5400	6300	7200	8100	9000

## **Pivot Table**

A **pivot table** doesn't actually change the spread sheet or database itself.

Let us consider the following Excel Sheet from which we are going to derive the pivot table

	А	В	С	D	E	F	G
1	DEPARTMENT	DESIGNATION	EMPLOYEE ID	EMPLOYEE NAME	AGE	GENDER	SALARY
2	MATH	LECTERURE	1	SANTOSH	25	М	60000
3	PHYSICS	READER	2	ARPITA	27	F	70000
4	CHEMISTRY	PROFESSOR	3	ARCHANA	32	F	80000
5	BOTANY	LECTERURE	4	ALOK	23	М	40000
6	ZOOLOGY	READER	5	ASHOK	26	М	50000

### Step-1

### First select the table as shown below

	А	A B C		D	E	F	G
1	DEPARTMENT	DESIGNATION	EMPLOYEE ID	EMPLOYEE NAME	AGE	GENDER	SALARY
2	MATH	LECTERURE	1	SANTOSH	25	М	60000
3	PHYSICS	READER	2	ARPITA	27	F	70000
4	CHEMISTRY	PROFESSOR	3	ARCHANA	32	F	80000
5	BOTANY	LECTERURE	4	ALOK	23	М	40000
6	ZOOLOGY	READER	5	ASHOK	26	М	50000

## Step-2

### Click on Pivot Table as shown below

Pivo	otTables	Picture Clip Sh	apes Sr	martArt Screenshot	Column	Line	Pie *	Bar •	Area Sc	atter Other	Line Column V
	A1	• (0	$f_{x}$	DEPARTMENT							
1	А	В		С		D			E	F	G
1	DEPARTMENT	DESIGNATION	E	MPLOYEE ID	EMPLO	OYEE N	AME	ļ	<b>IGE</b>	GENDER	SALARY
2	MATH	LECTERURE		1	SA	NTOSH	I		25	М	60000
3	PHYSICS	READER		2	A	RPITA			27	F	70000
4	CHEMISTRY	PROFESSOR		3	AR	CHANA	1		32	F	80000
5	BOTANY	LECTERURE		4	1	ALOK			23	М	40000
6	ZOOLOGY	READER		5	A	SHOK			26	М	50000
-											

# Choose Existing Worksheet and location I1

X	J 🔊 • (* •	û <b>@</b>  ₹			data table	- Microsoft	Excel (Product Act	ivation Failed)						- 6 X
G	ile Home	Insert Pag	e Layout Formulas I	Data Review Vie	ew Team								۵	🕜 🗆 🗗 🕅
Pivo	tTable Table	Picture Clip SI Art	apes SmartArt Screenshot	Column Line Pie	Bar Area Sca	tter Other Charts	Line Column	Win/Loss Slicer	Qg Hyperlink	A Text H Box &	leader WordArt Footer	Signature Object	$\pi$ $\Omega$ Equation Symbol	
	Tables	]	ustrations		Charts	ţ,	Sparklin	es Filter	Links		Text		Symbols	
	11	•	<i>f</i> <sub>x</sub> DEPARTMENT								200.14			۷
1	A	В	С	D	E	F	G	H	Ŧ	J	K L	M	0	р =
1	DEPARTMEN	DESIGNATION	EMPLOYEE ID	EMPLOYEE NAME	AGE	GENDER	SALARY		<u>  </u>					
2	MATH	LECTERURE	1	SANTOSH	25	M	60000							
3	PHYSICS	READER	2	ARPITA	27	F	70000							
4	CHEMISTRY	PROFESSOR	3	ARCHANA	32	F	80000							
5	BOTANY	LECTERURE	4	ALOK	23	M	40000							
0	ZOOLOGY	KEADEK	5	ASHOK	26	M	50000							
/			Create PivotTable		? ×									
0			Choose the data that you w	ant to analyze										
2 10			Select a table or range											
10			Table/Range: Sh	eet2!\$A\$1:\$G\$6	1	1								
12			🔘 Use an external data s	ource		°								
13			Choose Connecti	on										=
14			Connection name:											
15			Choose where you want the	PivotTable report to be p	aced									
16			New Worksheet											
17			Existing Worksheet											
18			Location: Sheet,	215151	5	1								
19														
20				OK	Cancel									
21														
22														
23														
24														
25														
11	► ► Sheet	1 Sheet2 Sh	eet3 🖉			10				-				)
Poi	nt				Y							. Ⅲ 🛙	100% 🖯 —	
6	9 🙆	1		0			>					<u>۸</u>	P (* 12 (*)	16:16 03-12-2015

# Step-4

<b>X</b>	🚽 🍠 • (°	* 🗊 🎒 🔻	data table - Microsoft	Excel (Product Activation	Failed)	PivofTable	Tools							- 🗗 🛛
F	ile Hom	e Insert Pag	ge Layout <b>F</b> ormulas	Data Review V	iew Team	Options	Design							a 🕜 🗆 🗗 🛛
Pivo Pivo Pivo	tTable Name: htTable2 Options ≠ PivotTable	Active Field: DEPARTMENT Sield Settings Acti	♥를 Expand Entire Field "를 Collapse Entire Field ive Field		Sort Insert Sort Slicer *	Refresh Cha * Si Data	nge Data purce *	Clear v	Select Move • PivotTable Actions	Σ Summarize Show Values By ~ Values As Calculatio	Fields, Items, P & Sets * ins	ivotChart	OLAP What-If Tools Analysis Tools	Id +/- Field st Buttons Headers Show
	11	• (*	fs DEPARTMENT											٧
	A	В	С	D	E	F		G	н	1	J		PivotTable Field List	▼ X
1	DEPARTMEN	NT DESIGNATION	EMPLOYEE ID	EMPLOYEE NAME	AGE	GENDE	R SAI	LARY		DEPARTMENT	(All)	*		
2	MATH	LECTERURE	1	SANTOSH	25	M	60	0000					Choose neids to add to	report:
3	PHYSICS	READER	2	ARPITA	27	F	70	0000		Sum of SALARY	Column Labels	×	DEPARTMENT	
4	CHEMISTRY	Y PROFESSOR	3	ARCHANA	32	F	80	0000		Row Labels	ŀ	M	EMPLOYEE ID	
5	TOOLOGY	DEADER	4	ALUK	25	M	40	000		DROFESSOR	900	10	EMPLOYEE NAME	
7	2001001	NEADEN	5	ASHOK	20	IVI	50	000		READER	700	00 5	AGE	
8										Grand Total	1500	00 15	GENDER	
9													V SALARY	
10														
11														
12												=		
13														
14														
15													Drag fields between are	as below:
16													Y Report Filter	Column Labels
17													DEPARTMENT 🔻	GENDER *
10												_		
20														
20													Row Labels	Σ Values
22													DESIGNATION -	Sum of SALARY 🔻
23														
24														
25													Dofor Lawout Under	
H 4	► ► Shee	et1 Sheet2 Sh	heet3 🦄				1					•	Derer Layout Opdat	upuate
Rea	idy												100% 🤤	)
6	) 🜔		) 🕅 🤇	0		I 🖉	2						- P 0 0	(b) 16:20 03·12-2015

Step-5 :- The Pivot Table is created

1	J	ĸ	L
DEPARTMENT	(AII) 🖃		
Sum of SALARY	Column Labels 💌		
Row Labels 🔄	F	м	Grand Total
LECTERURE		100000	100000
PROFESSOR	80000		80000
READER	70000	50000	120000
Grand Total	150000	150000	300000

Looking at the above screen we find that it is very easy to calculate the sum of both female and male and also find the grand total of the male and female employees.

## Filtering Data using Pivot Table

DEPARTMENT (AII) 
Search

CAII)

CHEMISTRY

CHEMISTRY

PHYSICS

ZOOLOGY

Select Multiple Items

OK Cancel

You can filter data from a pivot table as shown below

Here the above screen pops up and shows two options

- 1. Select multiple items unchecked {This allows you to see individual departments }
- 2. Select multiple items checked {This allows you to see multiple departments}

#### Upon pressing the ok button you can see the data of three departments

- 1. Botany
- 2. Math
- 3. Physics
  - As below

DEPARTMENT	(Multiple Items) 耳	]	
Sum of SALARY			
	F	М	Grand Total
LECTERURE		100000	100000
READER	70000		70000
Course of Tracked	70000	400000	470000

Now if I want to search for botany as shown below

	DEPARTMENT	BOTANY 🖵
Search		Q
(All) BOTAN CHEMIS MATH PHYSIC ZOOLO	Y STRY S GY	
Select N	Nultiple Items	Cancel

You get the results showing department of BOTANY.

BOTANY 🖵	1
М	Grand Total
40000	40000
	BOTANY <b>T</b> M 40000

# Discussing about the field list of Pivot Table

## 3.4.2.1 Field list

I	J	K	L	М
DEPARTMENT	(Multiple Items) 🖵			
	Column Labels 🛛 🔻			
	м		Total Sum of SALARY	Total Sum of AGE
Row Labels 💌	Sum of SALARY	Sum of AGE		
	100000	48	100000	48
23	40000	23	40000	23
25	60000	25	60000	25
	50000	26	50000	26
26	50000	26	50000	26
Grand Total	150000	74	150000	74

Selecting this Pivot Table when we click options and click on field list as below



	PivotTable Field List	
	Choose fields to add to Choose fields to add to Choose fields EMPLOYEE ID EMPLOYEE NAME AGE GENDER SALARY	report:
	Drag fields between are Report Filter DEPARTMENT	GENDER
	Row Labels	∑ Values Sum of SALARY ▼
-	Defer Layout Updat	e Update

Working with field values of a Field list in Pivot table

	PivotTable Field	List 👻 🗙					
	Choose fields to a	add to report:					
	DEPARTMEN	DN					
	GENDER	ME.					
	SALARY						
		Move <u>U</u> p					
		Move <u>D</u> own					
$\equiv$		Move to Beginning					
		Move to <u>E</u> nd					
	Drag fields	Move to Report Filter					
	Repor	Move to Row Labels					
		Move to Column Labels					
	Σ	Move to Values					
	×	Remove Field					
	🛄 Row L 💁	Value Field Settings					
	DESIGNATION	Sum of SALARY					
	AGE	<b>•</b>					
-	Defer Layout	Update Update					

In the earlier case we use to find only the auto sum of the salary but a part of auto sum of salary many more functions can be run which include

- 1. Count
- 2. Average
- 3. Max
- 4. Min
- 5. Product
- 6. Count Numbers
- 7. StdDev
- 8. Var
- 9. Varp

Value Field Settings
Source Name: SALARY
Custom Name: Average of SALARY
Summarize Values By Show Values As
<u>S</u> ummarize value field by
Choose the type of calculation that you want to use to summarize data from the selected field
Sum Count Average
Max Min Product
Number Format OK Cancel

Upon clicking Average I find the sum of the average of salaries as below.

1	J	К	L	M	N	0	P	Q	R	S	▲ PivotTable Field List ▼
DEPARTMENT	(All) 👻										
											Choose fields to add to report:
Average of SAL	¢										DEPARTMENT
		F	м	Grand Total							DESIGNATION
LECTERURE	23		40000	40000							
	25		60000	60000							
PROFESSOR	32	80000		80000							GENDER
READER	26		50000	50000							SALARY
	27	70000		70000							
Grand Total		75000	50000	60000							
											=
											Drag fields between areas below:
											Report Filter Column Labels
											DEPARTMENT V GENDER V
											Row Labels <b>Σ</b> Values
											DESIGNATION  Average of S
											AGE
				<b>1</b> 4			1				Defer Layout Update     Update

#### Unit -8

### **Keyboard Shortcuts**

#### Learning objectives

After the Completion of this unit you should be able to know

1) What are the shortcuts used in MS Excel and their use

### Introduction

Shortcuts keys quicken the speed of work by many times when working with large excel sheets. Professionals those who work on excel master these shortcut keys as as combination of keys help them to work on various sheets which involve navigation inside sheets, working with data selections, insert or edit data, data formatting and many more. So to understand what is shortcut keys let us get started.

#### Definition

Shortcut key: - A special key combination that causes a specific command to be executed.

### Working with shortcuts

### Navigating inside worksheets

Sl.No	Keys	Role
1	Arrow Keys	Move one cell up, down, left, or right in a worksheet.
2	Page Down/Page Up	Move one screen down / one screen up in a worksheet.
3	Alt+ Page Down/Alt+Page Up	Move one screen to the right / to the left in a worksheet.
4	Tab /Shift +Tab	Move one cell to the right / to the left in a worksheet.

5	Ctrl + Arrow Keys	Move to the edge of next data region (cells that contains data)
6	Home	Move to the beginning of a row in a worksheet.
7	Ctrl + Home	Move to the beginning of a worksheet.
8	Ctrl +End	Move to the last cell with content on a worksheet.
9	Ctrl + f	Display the Find and Replace dialog

box (with Find selected).

10	Ctrl + h	Display the Find and Replace dialog
		box (with Replace selected). Repeat
11	Shift + F4	last find.
12	Ctrl +g Or F5	Display the 'Go To' dialog box.
13	Ctrl + Arrow Left , Ctrl +Arrow	Inside a cell: Move one word to the left / to the right.
Rig Enc	ht 14 Home/	Inside a cell: Move to the beginning / to the end of a cell entry.
15	Alt +Arrow Down	Display the AutoComplete list e.g. in cell with dropdowns or auto filter
16	End	Turn 'End' mode on. In End mode, press arrow keys to move to the next nonblank cell in the same column or row as the active cell. From here use arrow keys to move by blocks of data, home to move to last cell, or enter to move to the last cell to the right

# Work with Data Selections

1	Shift +Space	Select the entire row
2	Ctrl + Space	Select the entire column
3	Ctrl+ Shift + *	Select the current region around the active cell.
4	Ctrl+a ,Ctrl +Shift +Spacebar	Select the entire worksheet or the data- containing area. Pressing ctrl+a a second time then selects entire worksheet.
5	Ctrl +Shift +Page Up	Select the current and previous sheet in a workbook.

6	Ctrl +Shift + o	Select all cells with comments.
7	Shift +Arrow Keys	Extend the selection by one cell.
8	Ctrl +Shift +Arrow	Extend the selection to the last cell
	Key	with content in row or column.
9	Shift +Page Down /Shift +Page Up	Extend the selection down one screen / up one screen.
10	Shift +Home	Extend the selection to the beginning of the row.
11	Ctrl +Shift + Home	Extend the selection to the beginning of the worksheet.
12	Ctrl +Shift +End	Extend the selection to the last used cell on the worksheet (lower-right corner).

# Manage Active Selections

13	F8	Turn on extension of selection with arrow
		keys without having to keep pressingshift.
14	Shift +F8	Add another (adjacent or non-adjacent)
		range of cells to the selection. Usearrow
		keys and shift + arrow keys to add to
		selection.
15	Shift +Backspace	Select only the active cell when multiple
	-	cells are selected.
16	Ctrl +	Show active cell within selection. Move
Bac	kspace 17 Ctrl	clockwise to the next corner of the
I		selection.
Τ. 18	Entor / Shift	Move active cell down / up in a selection
10	Enter / Shift +	whove active cell down / up in a selection.
	Entor	1
10	Enter	Mour active cell right / left in a selection
19	Enter Tab/Shift +Tab	Move active cell right / left in a selection.
19 20	Enter Tab/Shift +Tab Ctrl +Alt +Left	Move active cell right / left in a selection. Move to the right / to the left between
19 20	Enter Tab/Shift +Tab Ctrl +Alt +Left Arrow	Move active cell right / left in a selection. Move to the right / to the left between non-adjacent selections (with multiple
19 20	Enter Tab/Shift +Tab Ctrl +Alt +Left Arrow Ctrl +Alt +Right	Move active cell right / left in a selection. Move to the right / to the left between non-adjacent selections (with multiple ranges selected).
19 20	Enter Tab/Shift +Tab Ctrl +Alt +Left Arrow Ctrl +Alt +Right Arrow	Move active cell right / left in a selection. Move to the right / to the left between non-adjacent selections (with multiple ranges selected).

Select Inside Cells

	22 Shift +Left	Select or unselect one character to the
1	Arrow / Shift +Right	left / to the right.
	arrow	
23	Ctrl +Shift +Left	Select or unselect one word to the left /
	Arrow/Ctrl + Shift	to the right
	+Right Arrow	
24	Shift +Home /	Select from the insertion point to
	Shift +End	the beginning / to the end of the cell.

## Insert or edit data

## Undo / Redo Shortcuts

1	Ctrl + z	Undo last action (multiple levels).
2	Ctrl +y	Redo last action (multiple levels).
Wor	k with Clipboard	
3	Ctrl +c	Copy contents of selected cells.
4	Ctrl +x	Cut contents of selected cells.
5	Ctrl +v	Paste content from clipboard into selected cell.
6	Ctrl +Alt +v	If data exists in clipboard: Display the Paste Special dialog box.
7	Ctrl+Shift+[+]	If data exists in clipboard: Display the Insert dialog box to insert blank cells.
Edit	Inside Cells	
8	F2	Edit the active cell with cursor at end of the line.
9	Alt +Enter	Start a new line in the same cell.
10	Enter	Complete a cell entry and move down in the selection. With multiple cells selected: fill cell range with current cell.
11	Shift +Enter	Complete a cell entry and move up in the selection.
12	Tab /Shift +Tab	Complete a cell entry and move to the

right / to the left in the selection.

13	Esc	Cancel a cell entry
14	Backspace	Delete the character to the left of the
	-	insertion point, or delete the selection.
15	Delete	Delete the character to the right of the
		insertion point, or delete the selection.
16	Ctrl +Delete	Delete text to the end of the line.
17	Ctrl+; (semicolon)	Insert current date.
18	Ctrl+Shift+: (colon)	Insert current time.
19	Ctrl +t	Show all content as standard numbers.
		(So 14:15 becomes 14.25 etc for the
		entire file) To undo press ctrl + t again

# Edit Active or Selected Cells

20	Ctrl+ d	Fill complete cell down (Copy above cell).
21	Ctrl +r	Fill complete cell to the right (Copy cell from the left).
22	Ctrl+"	Fill cell values down and edit (Copy above cell values).
23	Ctrl+'	Fill cell formulas down and edit (Copy above cell formulas).
24	Ctrl+	Insert a table (display Create Table dialog box).
25	Ctrl+-	Delete Cell/Row/Column Menu
26	Ctrl +- with Row of column Selected	Delete row / delete column.
27	Ctrl+ Shift+ +	Insert Cell/Row/Column Menu
28	Ctrl +Shift + + (row /column selected)	Insert row/ insert column
29	Shift +F2	Insert / Edit a cell
30	Shift+ F10 then m	comment. Delete comment
31	Alt +f1	Create and insert chart with data in

current range as embedded Chart Object.

32	F11	Create and insert chart with data in
		current range in a separate Chart
33	Ctrl +k	sheet. Insert a hyperlink.
34	Enter (in a cell with a	Activate a hyperlink.
Hide	e and show elements	
35	Ctrl+9	Hide the selected rows
36	Ctrl+shift +9	Unhide any rows within a selection
37	Ctrl +0(zero)	Hide the selected columns
38	Ctrl+ shift +0	Unhide any hidden columns within the selection*.
39	Ctrl+'	Alternate between displaying cell values and displaying cell formulas. Accent grave /not a quotation mark
40	Alt +Shift+Right	Group rows or columns.
41	Alt +shift +Left	Ungroup rows or columns.
42	Ctrl +6	Alternate between hiding and
		displaying objects.
43	Ctrl +8	Display or hides the outline symbols.
44	Ctrl+6	Alternate between hiding objects, displaying objects, and displaying placeholders for objects.

# Adjust Column Width And Row Height

45	Alt + o, ca	Adjust Column width to fit content
46	Alt +o,cw	Adjust Columns width to specific value
47	Alt +o,ra	Adjust Row height to fit content
48	Alt +o,re	Adjust Row height to specific value

# <u>Format data</u>

## **Format Cells**

1	Ctrl+1	Format Cells Dialog
2	Ctrl +b /Ctrl +2	Apply or remove bold formatting
3	Ctrl + i/Ctrl + 3	Apply or remove italic formatting.
4	Ctrl +u/Ctrl +4	Apply or remove an underline.
5	Ctrl +5	Apply or remove strikethrough formatting.
6	Alt +'	Display the Style dialog box.
7	Ctrl +Shift +f	Display the format cells with fonts Tab
		active

## Number formats

8	Ctrl+Shift +\$	Apply the Currency format with two decimal places.
9	Ctrl +Shift +~	Apply the General number format.
10	Ctrl +Shift +%	Apply the Percentage format with no decimal places.
11	Ctrl +Shift +#	Apply the Date format with the day, month, and year.
12	Ctrl+Shift +@	Apply the Time format with the hour and minute, and indicate A.M. or P.M.
13	Ctrl +Shift +!	Apply the Number format with two
		decimal places, thousands separator,
		and minus sign (-) for negative values.
14	Ctrl + Shift +^	Apply the Scientific number format with two decimal places.
15	F4	Repeat last formatting action: Apply previously applied Cell Formatting to a different Cell

Apply Borders To Cel s

16	Ctrl +Shift + &	Apply outline border from cell or selection
17	Ctrl+shift+_	Remove outline borders from cell or selection
18	Ctrl +1 Then Ctrl+ Right arrow /Left Arrow	Access border menu in 'Format Cell' dialog. Once border was selected, it will show up directly on the next Ctrl+ 1
19	Alt +t	Set top border
20	Alt + b	Set bottom
21	Alt +l	border Set Left
22	Alt + r	Set Right Border
23	Alt +d	Set Diagonal And Down Border
24	Alt + u	Set Diagonal And Up Border
Align Cells		
25	Alt+h,ar	Align Right
26	Alt+h,ac	Align Center
27	Alt+h,al	Align Left

# Formulas and names

### Formulas

1	=	Start A Formula
2	Alt+ =	Insert the AutoSum formula.
3	Shift +F3	Display the Insert Function dialog box.
4	Ctrl +a	Display Formula Window after typing formula name.
5	Ctrl + Shift +a	Insert Arguments in formula after typing formula name.
6	Shift +F3	Insert a function into a formula.

7	Ctrl +Shift +Enter	Enter a formula as an array formula
8	F4	After typing cell reference (e.g. =E3) makes reference absolute (=\$E\$4)
9	F9	Calculate all worksheets in all open workbooks.
10	Shift +F9	Calculate the active worksheet.
11	Ctrl +Alt +F9	Calculate all worksheets in all open workbooks, regardless of whether they have changed since the last calculation.
12	Ctrl +Alt + Shift +F9	Recheck dependent formulas, and then calculates all cells in all open workbooks, including cells not marked as needing to be calculated.
13	Ctrl +Shift +u	Toggle expand or collapse formula bar.
14	Ctrl+'	Toggle Show formula in cell instead of values
Name	es	
15	Ctrl+F3	Define a name or dialog.
16	Ctrl +Shift	Create names from row and column
17	+F3 F3	labels. Paste Defined Name Into Formula

## Manage multiple worksheets

1	Shift +F11/Alt +Shift +F1	Insert a new worksheet in current workbook
2	Ctrl +Page Down /	Move to the next / previous worksheet in current workbook.
	Ctrl +Page Up	
3	Shift +Ctrl +Page	Select the current and next sheet(s) /
	Down/	select and previous sheet(s).
	Shift +Ctrl +Page	
	Up	

4	Alt +o then hr	Rename current worksheet (format, sheet, rename)
5	Alt +e then l	Delete current worksheet (Edit, delete)
6	Alt +e then m	Move current worksheet (Edit, move)

# Manage multiple workbooks

1	F6/Shift +F6	Move to the next pane / previous pane in a workbook that has been split.
2	Ctrl +F4	Close the selected workbook window.
3	Ctrl+ n	Create a new blank workbook (Excel
4	Ctrl +Tab/Ctrl	File) Move to next / previous workbook
	+shift +Tab	window.
5	Alt +Space	Display the Control menu for Main Excel window.
6	Ctrl +F9	Minimize current workbook window to an icon. Also restores ('un-maximizes') all workbook windows.
7	Ctrl+F10	Maximize or restores the selected workbook window.
8	Ctrl +F7	Move Workbook Windows which are not maximized.
9	Ctrl+F8	Perform size command for workbook windows which are not maximzed.
10	Alt +F4	Close Excel

# Various Excel features

1	Ctrl + o	Open File.
2	Ctrl + s	Save the active file with its current
		file name, location, and file format.
3	F12	Display the Save As dialog box.
4	F10 or Alt	Turn key tips on or off.
5	Ctrl + p	Print File (Opens print menu).
6	F1	Display the Excel Help task pane.
7	F7	Display the Spelling dialog box.
8	Shift +F7	Display the Thesaurus dialog box.
9	Alt + F8	Display the Macro dialog box.
10	Alt +F11	Open the Visual Basic Editor to create Macros.

# Work with Excel Ribbon

1	Ctrl + F1	Minimize or restore the Ribbons
2	Alt/F10	Select the active tab of the Ribbon and activate the access keys. Press either of these keys again to move back to the document and cancel the access keys. and then arrow left or arrow right
3	Shift +F10	Display the shortcut menu for the selected command.
4	Space /Enter	Activate the selected command or control in the Ribbon, Open the selected menu or gallery in the Ribbon
5	Enter	Finish modifying a value in a control in the Ribbon, and move focus back to the document.

6 F1	F1	Get help on the selected command or
		control in the Ribbon. (If no Help topic is
		associated with the selected command, the
		Help table of contents for that program is
		shown instead.)

# <u>Data Forms</u>

1	Tab/Shift +Tab	Move to the next / previous field which can be edited.
2	Enter/Shift +Enter	Move to the first field in the next /
		previous record.
3	Page Down/Page Up	Move to the same field 10 records forward
		/ back.
4	Ctrl +Page Down	Move to a new record.
5	Ctrl + Page	Move to the first record
5		
Uţ	6 Home/End	Move to the Beginning/End Of the field

## Work with Smart art graphics

1	Arrow Keys	Select Element
2	Esc	Remove focus from selection
3	F2	Edit Selection Text in if possible (in formula bar).